

RESPONSE OF PEARL MILLET TO IRRIGATION AND NITROGEN LEVELS

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ABSTRACT

The present investigation was carried out to study the effect of nitrogen and irrigation on the growth and yield of pearl millet under both the rainfed as well as irrigated conditions. The numbers of days taken for reaching the anthesis varied between 1 to 5 days in irrigated and rainfed plots, with variable nitrogen treatments. The days to maturity increased with increasing nitrogen dose and observed more so in irrigated plots compared to rainfed plots. Irrigation treatments gave significantly higher values of LAI over rainfed plots. The effect of nitrogen was pronounced on LAI in all the stages. The biomass production of pearl millet followed an exponential pattern reaching a maximum around 70 DAS. Biomass accumulation due to nitrogen application was faster in irrigated plots than rainfed plots. Seed yield varied significantly with the nitrogen application as compared to those plots that received no nitrogen, irrespective of irrigation treatment. Seed yield increase was significant up to 120 and 80 Kg N ha⁻¹ in irrigated and rainfed conditions, respectively. The increase in the yield of straw in rainfed plot was recorded up to 40 kg N ha⁻¹ whereas in irrigated plots it was significant up to 80 kg ha⁻¹. The incremental increase in 1000-seed weight was pronounced upto 40 kg N ha⁻¹ in rainfed treatment and upto 120 Kg N ha⁻¹ in irrigated though significant only upto 80 kg N ha⁻¹.

KEYWORDS: LAI, Crop Biomass, N application, Irrigation, Test Weight, Productivity & Pearl Millet

Received: Mar 12, 2017; **Accepted:** Mar 29, 2017; **Published:** Apr 03, 2017; **Paper Id.:** IJASRAPR201761